CLAIMS

1. A method for monitoring the trunk of a vehicle, comprising the steps of:

detecting the presence of a predefined living organism in the trunk of a vehicle;

detecting the operational condition of the vehicle;

providing an alarm when the presence of the predefined living organism is detected; and

automatically opening the trunk of the vehicle in response to a predefined safe operational condition of the vehicle and the detection of a predefined living organism in the trunk.

2. The method of claim 1, wherein said step of detecting the presence of a living organism includes the step of detecting the CO_2 exhaled by the organism in respiration.

3. The method of claim 1, wherein said step of detecting the presence of a living organism includes the step of detecting a rise in the level of CO_2 in the trunk over time in relation to a predefined baseline CO_2.

4. The method of claim 1, wherein said step of detecting the presence of a living organism includes the steps of:

detecting a baseline concentration of CO_2 after the trunk has been opened;

comparing the concentration of CO_2 measured for a time after the trunk is closed to the baseline concentration of CO_2; and

detecting the presence of a living organism when the concentration of CO_2 in the trunk exceeds the baseline concentration by a predetermined amount for a predetermined time.

5. The method of claim 1, wherein said step of detecting the presence of a living organism includes the step of detecting the movement of the organism in the trunk of the vehicle.

6. The method of claim 1, wherein said step of detecting the presence of a living organism includes the step of detecting the infrared emissions of the organism.

7. The method of claim 1, wherein said step of detecting the presence of a living organism includes the step of detecting the change in electrostatic charge produced by the organism.

8. The method of claim 1, including the step of automatically opening the trunk of the vehicle when the vehicle is stopped and a living organism is detected in the trunk.

9. The method of claim 1, including the step of providing an alarm but not opening the trunk when a living organism is detected in the trunk and the vehicle is moving.

10. The method of claim 1, including the step of providing an alarm but not opening the trunk when a living organism is detected in the trunk and a back seat of the vehicle is unlatched to ventilate the trunk.

11. The method of claim 1, including the step of providing an audible alarm in the vehicle in response to detecting a living organism in the trunk.

12. The method of claim 1, including the step of providing a visible alarm in the vehicle in response to detecting a living organism in the trunk.

13. The method of claim 1, including the step of providing an alarm signal to a security center in response to detecting a living organism in the trunk.

14. The method of claim 1, including the step of activating the horn of the vehicle in response to detecting a living organism in the trunk.

15. The method of claim 1, including flashing the headlights of the vehicle in response to detecting a living organism in the trunk.

16. A method for determining the presence of a person in an enclosure, comprising the steps of:

sensing a base line concentration of CO_2 in an enclosure;

sensing an increase in the concentration of CO_2 above said base line concentration; and

generating an alarm in response to detecting CO_2 above said base line concentration which is consistent with what would be produced by respiration of a person in the enclosure.

17. The method of claim 16, further including the steps of using a vehicle trunk as the enclosure and automatically opening the trunk of the vehicle when the vehicle is stationary ~~and said alarm is generated~~.

18. The method of claim 16, further including the steps of using a passenger compartment of a vehicle as the enclosure and automatically ventilating the compartment ~~when said alarm is generated~~.

19. The method of claim 16, wherein said step of determining includes the steps of:

detecting a baseline concentration of CO_2 after the enclosure is opened;

comparing the concentration of CO_2 measured for a time after the enclosure is closed to the baseline concentration of CO_2; and

detecting the presence of a person when the concentration of CO_2 in the closed enclosure exceeds the baseline concentration of CO_2 by a predetermined amount for a predetermined time.

~~20.~~ An apparatus for sensing the presence of a person in the trunk of a vehicle, comprising:

a CO_2 sensor for detecting a baseline concentration of CO_2 after the trunk has been opened and the concentration of CO_2 for a time after the trunk is closed; and

a microcontroller for comparing the concentration of CO_2 when the trunk is closed to the baseline concentration of CO_2 and generating an alarm indicating the presence of a person in the trunk when the concentration of CO_2 in the closed trunk exceeds the baseline concentration of CO_2 by a predetermined amount for a predetermined time.

21. The apparatus of claim 19, including means for sensing the movement of the vehicle and means for opening the trunk when a person is sensed in the trunk and the vehicle is stopped.

22. A method for determining the presence of a person in a closed passenger compartment of a vehicle, comprising the steps of:

sensing a base line concentration of CO_2 in the closed passenger compartment;

sensing an increase in concentration of CO_2 above said base line concentration, and

generating an alarm in response to detecting CO_2 above said base line concentration which is consistent with what would be produced by respiration of a person in the closed compartment.

23. The method of claim 22, further including the step of ventilating the compartment in response to said alarm.

24. The method of claim 22, further including the step of ventilating the compartment in response to said alarm and the detection of a predefined temperature in the closed compartment.